

CALIFORNIA ENERGY COMMISSION

1516 NINTH STREET
SACRAMENTO, CA 95814-5512



STATE OF CALIFORNIA
State Energy Resources
Conservation and Development Commission

In the Matter of:)	Docket No. 98-AFC-4C
)	Order No. 01-1205-02
SUNRISE POWER PROJECT)	
)	
Petition to Increase Simple-Cycle Operations)	COMMISSION ORDER APPROVING PROJECT MODIFICATIONS

On August 31, 2001, the Sunrise Power Company submitted a petition to increase the simple-cycle power plant operating hours to allow for baseload operations to December 31, 2003. The Commission approves the proposed amendment and the proposed modified conditions in accordance with Title 20, section 1769(a)(3) of the California Code of Regulations.

COMMISSION FINDINGS

Based on staff's analysis, the Energy Commission finds that:

- A. There will be no new or additional unmitigated significant environmental impacts associated with the proposed change.
- B. The facility will remain in compliance with all applicable laws, ordinances, regulations, and standards.
- C. The change will be beneficial to the project owner.
- D. The decision to increase the simple-cycle operating hours was filed due to a change in circumstances since the time of certification.

CONCLUSION AND ORDER

The California Energy Commission hereby adopts the following changes to the Sunrise Power Project Decision.

NEW AND CHANGES TO AIR QUALITY CONDITIONS OF CERTIFICATION, (added text is underlined, deleted text is shown as ~~striketrough~~) :

SJVUAPCD Permit No. S-3746-1 General Electric Frame 7, Model PG724FA, natural gas fired ~~combined cycle~~ gas turbine engine/electric generator ~~with dry low NOx combustors, selective catalytic reduction, oxidation catalyst, and steam turbine~~ listed with S-3746-2 ~~(585 MW total plant nominal rating)~~.

SJVUAPCD Permit No. S-3746-2- General Electric Frame 7, Model PG724FA, natural gas fired ~~combined cycle~~ gas turbine engine/electric generator ~~with dry low NOx combustors,~~

~~selective catalytic reduction, oxidation catalyst, and steam turbine~~ listed with S-3746-2 ~~(585 MW total plant nominal rating)~~.

AQ-14 During startup or shutdown of any combustion turbine generator(s), combined emissions from the two CTGs (S-3746-1 and '-2) shall not exceed the following: ~~NO_x—700 lbs and CO—1580 lbs in any one hour.~~

For simple cycle mode of operation

NO_x 145.24 lbs in any one hour

CO 364.86 lbs in any one hour

For combined cycle mode of operation

NO_x 700 lbs in any one hour

CO 1,580 lbs in any one hour

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-15 Emission rates from each CTG, except during startup and shutdown events, shall not exceed any of the following [District Rules 2201, 4001, and 4703]:

While operating in simple cycle mode:

PM₁₀ 9 lbs/hr

SO_x (as SO₂) 3.85 lbs/hr.

NO_x (as NO₂) 60.93 lbs/hr.

9.0 ppm

VOC 2.81 lbs/hr.

1.3 ppm

CO 29.14 lbs/hr.

7.5 ppm

NO_x (as NO₂) emission concentration limit is a one-hour rolling average. All other emission concentration limits are three-hour rolling averages

While operating in combined-cycle mode:

PM₁₀: 17.8 lbs/hr

SO_x (as SO₂): 1.55 lbs/hr

NO_x (as NO₂): 15.96 lbs/hr and 2.0 ppmvd @ 15% O₂

VOC: 5.51 lbs/hr and 2.0 ppmvd @ 15% O₂

CO: 19.22 lbs/hr and 4.0 ppmvd @ 15% O₂

Ammonia: 10 ppmvd @ 15% O₂

NO_x (as NO₂) emission concentration limit is a one-hour rolling average.

Ammonia emission concentration limit is a 24-hour rolling average. All other emission concentration limits are three-hour rolling averages.

Protocol: Each one-hour period in a one-hour rolling average will commence on the hour. Each one-hour period in a 3-hour rolling average will commence on the hour. The 3-hour average will

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be compiled from the three most recent 1-hour periods. 24-hour average emissions will be compiled for a 24-hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-16 Emission rates from each CTG shall not exceed the following:

While operating in simple cycle mode:

PM₁₀: 224.00 lbs/day
SO_x (as SO₂): 92.40 lbs/day.
NO_x (as NO₂): 1,485.70 lbs/day.
VOC: 99.57 lbs/day.
CO: 1,005.93 lbs/day.

While operating in combined cycle mode:

PM₁₀: 461.2 lbs/day
SO_x (as SO₂): 37.2 lbs/day
NO_x (as NO₂): 1,170.9 lbs/day
VOC: 220.6 lbs/day
CO: 2,443.4 lbs/day

[District Rule 2201]

Protocol: Daily emissions will be compiled for a 24-hour period starting and ending at twelve-midnight. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-17 Quarterly and Annual emissions from ~~the both~~ CTGs combined ~~calculated on a twelve consecutive month rolling basis~~ shall not exceed any of the following limits:

For simple cycle operation:

During the year of 2001 (units are in pounds):

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Annual Total</u>
<u>PM₁₀</u>	<u>0</u>	<u>9,400</u>	<u>41,216</u>	<u>32,442</u>	<u>83,058</u>
<u>SO_x</u> <u>(as SO₂)</u>	<u>0</u>	<u>3,734</u>	<u>15,897</u>	<u>13,248</u>	<u>32,880</u>
<u>NO_x</u> <u>(as NO₂)</u>	<u>0</u>	<u>59,398</u>	<u>256,754</u>	<u>213,971</u>	<u>530,123</u>
<u>VOC</u>	<u>0</u>	<u>2,976</u>	<u>17,504</u>	<u>15,581</u>	<u>36,061</u>
<u>CO</u>	<u>0</u>	<u>30,338</u>	<u>175,346</u>	<u>156,685</u>	<u>362,369</u>

During the year of 2002 & 2003 (units are in pounds):

	<u>1st Quarter</u>	<u>2nd Quarter</u>	<u>3rd Quarter</u>	<u>4th Quarter</u>	<u>Annual Total</u>
<u>PM₁₀</u>	<u>24,342</u>	<u>24,594</u>	<u>24,828</u>	<u>24,828</u>	<u>98,592</u>
<u>SO_x</u> <u>(as SO₂)</u>	<u>9,879</u>	<u>9,338</u>	<u>9,432</u>	<u>10,087</u>	<u>38,736</u>
<u>NO_x</u> <u>(as NO₂)</u>	<u>159,994</u>	<u>152,063</u>	<u>153,547</u>	<u>163,284</u>	<u>628,888</u>
<u>VOC</u>	<u>12,222</u>	<u>11,828</u>	<u>11,896</u>	<u>127,374</u>	<u>48,320</u>
<u>CO</u>	<u>122,599</u>	<u>117,762</u>	<u>118,461</u>	<u>124,172</u>	<u>482,994</u>

For combined cycle operation:**Annual emission limits only**PM₁₀: 269,651 lbs/yearSO_x (as SO₂): 24,259 lbs/yearNO_x (as NO₂): 311,337 lbs/year

VOC: 87,674 lbs/year

CO: 507,978 lbs/year

[District Rule 2201]

Protocol: Each calendar month in a twelve consecutive month rolling emissions total will commence at the beginning of the first day of the month. The twelve consecutive month rolling emissions total to determine compliance with annual emission limits will be compiled from the twelve most recent calendar months. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31**.

AQ-18 ~~Prior to or upon startup of either S-3476-1 or '2,~~ Emission offsets shall be surrendered for all calendar quarters in the following amounts, at the offset ratio specified in Rule 2201 (6/15/95 version) in the following table ~~at least 30 days prior to the commencement of construction.~~

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>3,964</u>	<u>7,584</u>	<u>18,780</u>	<u>3,964</u>
<u>NO_x (as NO₂)</u>	<u>21,036</u>	<u>41,894</u>	<u>111,094</u>	<u>21,036</u>

For the year 2001

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>0</u>	<u>9,400</u>	<u>41,216</u>	<u>32,442</u>
<u>SO_x (as SO₂)</u>	<u>0</u>	<u>3,734</u>	<u>15,898</u>	<u>13,248</u>
<u>NO_x (as NO₂)</u>	<u>0</u>	<u>57,157</u>	<u>247,068</u>	<u>205,898</u>
<u>VOC</u>	<u>0</u>	<u>1,326</u>	<u>7,796</u>	<u>6,940</u>

For the years 2002 and 2003

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>24,342</u>	<u>24,594</u>	<u>24,828</u>	<u>24,828</u>
<u>SO_x (as SO₂)</u>	<u>9,879</u>	<u>9,338</u>	<u>9,432</u>	<u>10,087</u>
<u>NO_x (as NO₂)</u>	<u>154,994</u>	<u>147,063</u>	<u>148,547</u>	<u>158,284</u>
<u>VOC</u>	<u>7,222</u>	<u>6,828</u>	<u>6,896</u>	<u>7,374</u>

[District Rule 2201]

~~Prior to or upon startup of either S-3746-1 or '2, t~~The following emissions offsets shall be provided to the District to provide additional environmental benefits during the initial phase of this Project and shall be used towards the offset requirements, if needed, when the next phase of this Project is implemented:

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>67,364</u>	<u>64,647</u>	<u>51,763</u>	<u>69,001</u>
<u>SO_x (as SO₂)</u>	<u>14,075</u>	<u>14,231</u>	<u>14,387</u>	<u>14,387</u>
<u>NO_x (as NO₂)</u>	<u>67,207</u>	<u>0</u>	<u>18,105</u>	<u>26,538</u>
<u>VOC</u>	<u>13,949</u>	<u>14,104</u>	<u>14,259</u>	<u>14,259</u>

For the year 2001

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>72,121</u>	<u>62,468</u>	<u>21,286</u>	<u>34,178</u>
<u>SO_x (as SO₂)</u>	<u>14,075</u>	<u>9,750</u>	<u>0</u>	<u>0</u>
<u>NO_x (as NO₂)</u>	<u>92,450</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>VOC</u>	<u>13,949</u>	<u>12,513</u>	<u>4,904</u>	<u>5,931</u>

For the years 2002 and 2003

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>42,911</u>	<u>44,235</u>	<u>44,505</u>	<u>43,964</u>
<u>SO_x (as SO₂)</u>	<u>2,220</u>	<u>3,025</u>	<u>3,069</u>	<u>2,283</u>
<u>NO_x (as NO₂)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<u>VOC</u>	<u>5,283</u>	<u>5,910</u>	<u>5,984</u>	<u>5,410</u>

~~Prior to or upon startup of either S-3746-1, '2 and '3, t~~The following emissions offsets shall be provided to the District to provide additional environmental benefits during the initial phase of phase II of the Sunrise Project and shall be used towards the offset requirements:

	<u>Quarter 1</u>	<u>Quarter 2</u>	<u>Quarter 3</u>	<u>Quarter 4</u>
<u>PM₁₀</u>	<u>10,541</u>	<u>8,266</u>	<u>20,637</u>	<u>16,404</u>
<u>NO_x (as NO₂)</u>	<u>9,157</u>	<u>4,195</u>	<u>0</u>	<u>6,571</u>
<u>VOC</u>	<u>4,983</u>	<u>3,111</u>	<u>5,791</u>	<u>6,648</u>

Verification: The Project owner shall provide copies of all the necessary ERC certificates to the CPM ~~no later than 30 days prior to the commencement of construction.~~

AQ-26 The source test plans for the initial and seven-year source test shall include a method for measuring the CO/VOC surrogate relationship that will be used to demonstrate compliance with VOC lbs/hr, lbs/day, and lbs/twelve month rolling average emission limits upon combined cycle operation. [District Rule 2201]

Verification: The Project owner shall provide a source test plan to the CPM and District for the CPM and District approval 15 days prior to testing. Initial source testing shall occur no later than 90 days following the first day of combined cycle operation.

AQ-29 The Project owner shall maintain hourly records of NO_x, and CO emission concentrations (ppmv @ 15% O₂), and hourly, daily, and annual records of NO_x and CO emissions. Compliance with the hourly, daily, and annual VOC emission limits shall be demonstrated by the CO CEM data and the CO/VOC relationship determined by annual CO and VOC source tests upon combined cycle operation. [District Rule 2201]

Verification: The Project owner shall provide records of the emissions as part of the quarterly reports of Condition **AQ-31.**

~~**AQ-41** This approval and permit shall expire on December 31, 2002. The equipment authorized by this approval and permit shall cease operation no later than December 31, 2002. The equipment shall not be operated beyond December 31, 2002 unless the permittee has filed an application for Determination of Compliance or an Authority to Construct and an Application for Certification or amendment to the existing Conditions of Certification for a modification of the Project to a combined cycle or cogeneration Project and has received prior authorization from the District and California Energy Commission to construct the combined cycle or cogeneration Project. Any application seeking authorization to amend the simple cycle power plant to a combined cycle power plant, or a cogeneration plant shall be treated as a modification of the existing equipment. The Project shall be subject to Best Available Control Technology requirements for new equipment effective at the time such application for modification is deemed complete. By initiating construction under this permit, the owner waives any vested right in operating this equipment as a simple cycle power plant beyond December 31, 2002." The project owner will cease the simple cycle operation of the Sunrise Power Project and convert it to combined cycle operation prior to January 1, 2004.~~

~~**Verification:** The Project owner shall submit an Application for Certification or an amendment to the existing Conditions of Certification and obtain approval by December 31, 2002 or cease all operation of the Sunrise Simple Cycle Plant. The project owner shall submit to the CPM a valid and current Authority to Construct issued to them by the San Joaquin Valley Unified Air Pollution Control District authorizing the Sunrise Power Project to begin construction on the Sunrise Power Project for conversion to combined cycle operation no later than January 1, 2003. The project owner shall submit to the CPM a valid and current Permit to Operate issued to them by the San Joaquin Valley~~

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Unified Air Pollution Control District authorizing the Sunrise Power Project to operate as a combined cycle power plant no later than 30 days prior to the first expected date of operation as a combined cycle power plant.

~~AQ-43 Electrical production capacity factor for CTG shall not exceed 28% on an annual basis. For a given year, capacity factor shall be calculated as: $\{(\text{total MW produced per year} \times \text{total hours of operation per year}) / (1,445,400 \text{ MW-hrs, which is the total net MW rating for CTG, } 165 \text{ MW, times } 8,760 \text{ hours per year})\}$.~~

~~**Verification:** The Project owner shall maintain records on site of electrical production capacity factors to demonstrate compliance with this condition.~~

IT IS SO ORDERED.

Date: December 5, 2001

STATE OF CALIFORNIA
ENERGY RESOURCES
CONSERVATION AND
DEVELOPMENT COMMISSION

WILLIAM J. KEESE, Chairman